# THE MARINE RECORD.

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## NEW CITY OF CLEVELAND.

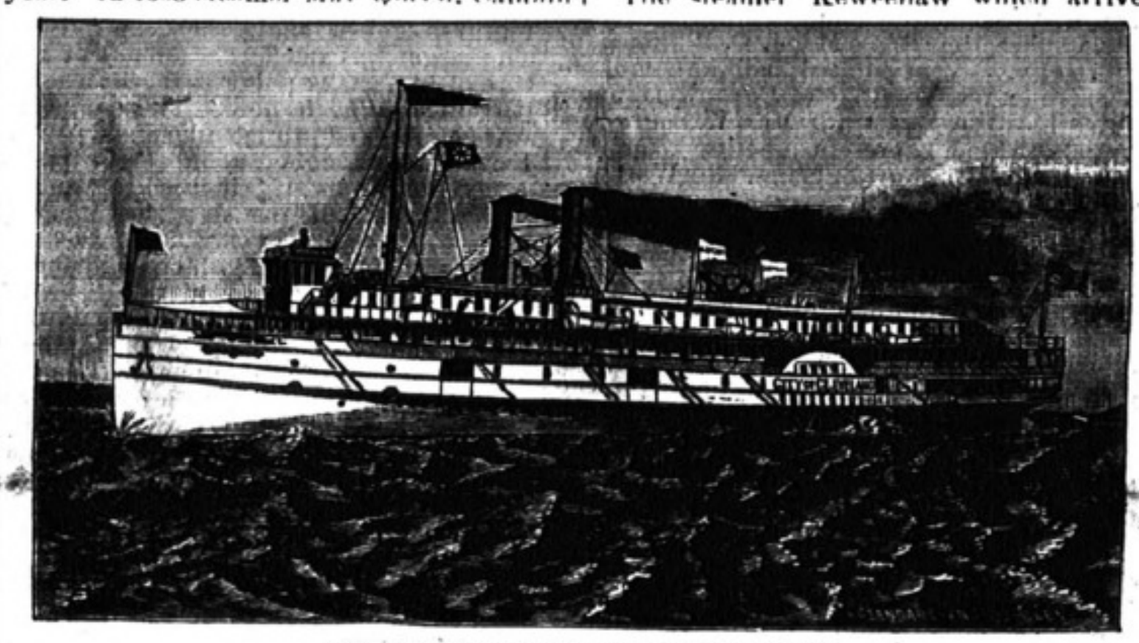
The Detroit Drydock Co. is constructing a veritable floating palace for the Detroit & Cleveland Steam Navigation Co., to be ready by the opening of the season of 1886. Her dimensions are as follows:

Length of keel, 270 feet, over all, 283 feet breadth of beam, 40 feet, over all, 70 feet; depth, of hold, 16 feet. The hull will be of steel, divided into water tight compartments by steel bulk heads. Should one of the apartments fill with water, the vessel would still float. The propelling power is to be a low-pressure condensing beam engine of 2,400 horse power, with cylinder 60 inches in diameter and 12 feet stroke. Feathering paddles as adopted by this company for three of their steamers, give greater speed without jar or noise. Four boilers, of 3-4 inch steel will weight 100 tons, and have a capacity of 100 pounds steam pressure. A speed of 18 or 19 miles per hour will be attained, which will make the running time from Detroit to Cleveland 5 1-2 hours. Steam stearing apparatus will place this immense vessel easily under the control of one man. The cabins will be finished in mahogany, and possess the novel feature, on Western waters, of an additional tier of staterooms above the hurricane deck, after the style of many of the finest river and sound steamers of the east. A separate cabin will be provided on the main deck for passengers without staterooms. The dining room, kitchen and pantry are located below the main deck. The capacity will be, for passengers 2,500, for freight 600 tons. Electric lights will be adopted throughout. In fact it is intended that this new steamer shall eclipse anything ever afloat on these western waters.

The Detroit and Cleveland Steam Navigation Company, taking advantage of the present low prices of material and labor, matured a cherished scheme of building a mammoth sidewheel passenger steamer, and in January contracted with the Detroit Drydock Company for a steel steamer, larger and more elegant than anything heretofore attempted. Each season has found this Company fully prepared to meet the demands made upon it, and with increased capacity and increased comfort, they are confident of an increased patronage. This steamer is designed for service on the Lake Erie division, between Detroit and Cleveland, alternating with the favorite steamer City of Detroit, which will be extensively remodeled as a fitting companion.

A few years since this Company constructed an elegant iron steamer, and named her City of Cleveland. This naturally pleased the Clevelanders, who fully expected she would be consigned to the route between Cleveland and Detroit, and were as naturally disappointed that circumstances willed it otherwise. Now that this larger and more elegant steamer is especially designed to serve them, it seems doubly fitting that a special effort should be made to place right, the matter of her name. The new steamer will therefore be christened City of Cleveland. Application was promptly made to the Secretary of the Treasury, for permission to change the name of the former City of Cleveland, of the Lake Huron division, so favorably known to the Mackinac tourists, which will hereafter be known as the City of Alpena, after their principal Lake Huron port. Thus this fleet of elegant steamers will, by their individual names, sharply designate their route, and can be justly styled "The Big Four" cities of the lakes, City of Cleveland, City of Detroit, City of Alpena, City of Mackinac.

The route was first inaugurated in 1850, the boats plying that year being the Southerner, Captain L. A. Pierce, and the Baltimore, Captain G. W. Strong; in 1851, the Southerner, Captain L. A. Pierce, and Baltimore, Captain H. W. Vorce; 1852, steamers Forest City, Captain Pierce; St. Louis, Captain Hopkins' and the Sam Ward, (part of the season) Captain M. H. Eastabrooks; 1853, steamers Cleveland Captain J. R. Howe, and May Queen, Captain R. G. Evans; 1854, steamer Cleveland, Captain C. C. Stanard, and May Queen, Captain Evans; 1855, steamer Ocean, Captain C. C. Blodgett, and May Queen, Captain Evans; 1856, Ocean, Captain Blodgett, and May Queen, Captain E. R. Viger; City of Cleveland, Captain J. M. Lundy; 1857, Ocean, Captain Evans, May Queen, Captain Viger. The same steamers and masters filled the bill until 1862, when the City of Cleveland, Captain Evans, and May Queen, Captain Viger, plied the fore part of the season, when the new steamer Morning Star came on the route in command of Captain Viger, Captain Evans d ied in July of this year. In 1863 steamer May Queen, Captain Mm. McKay, and Morning Star, Captain Viger, were on the route. This arrangment continued until 1867 when the R. N. Rice, (new) Captain McKay, took the place of the City of Cleveland. The Morning Star, Captain Viger, was sunk in midsummer of 1868 by collision with the bark Courtland on Lake Erie, and the vacancy was supplied by the steamer Northwest, Captain Viger. There was no further change of boats or masters until November, 1874, when Captain Viger died and his place was filled by Captain D. A. McLachlan. The Rice was burned at Detroit in June, 1877, and her place supplied by the steamer Saginaw the remainder of the season. In 1878 the steamer City of Detroit (new,) Captain McKay, and the Northwest, Captain McLachlan, took the route. The same steamers and masters remained until 1883, when Captain McKay was superseded by Captain McLachlan, of the Northwest, and the latter boat was commanded by Captain Dugald McLachlan, which arrangement continues the present season. The first two years of its organization the agency was held in Detroit by John Chester & Co., then by Pittman, Trowbridge & Jones up to 1855; Trowbridge & Jones up to 1858; Vigarous Jones up to 1861; J. W. Keith to 1865; and Keith & Carter up to 1867, since which period David Carter has been the general manager. From and after 1853 L. A. Pierce was the manager at Cleveland, and up to the time of his death, which occurred June 20, 1881, after which T. F. Newman assumed the management, which he still holds.



STEAMER CITY OF CLEVELAND.

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A statement of the commerce through the Sault Ste. Marie, respectively for July, 1884 and 1885, appears in a morning paper. The item of grain for 1885 shows an increase over the corresponding period of last year of over one-half, with a large increase of other freights and tonnage:

| | 1884 | 1885. |
|---|---|---|
| Registered tonnage..... | 490,545 | 514,774 |
| Freight, tonnage ..... | 497,361 | 561,238 |
| Passengers, number.... | 8,762 | 11,016 |
| Coal, tons..... | 154,718 | 182.841 |
| Grain, bushels..... | 946,884 | 2,190,644 |
| Flour, barrels..... | 241,664 | 223,532 |
| Iron ore, tons..... | 215,158 | 200,919 |
| Salt, barrels..... | 9,968 | 21,615 |
| Copper, tons..... | 6,831 | 4,992 |
| Lumber, feet..... | 19,770,000 | 25,375,000 |

## AROUND THE LAKES.

### CLEVELAND.

There was a five dollar fire on the tug Florence yesterday.

Tugs Frank Moffat and Mocking Bird are making up tows at this port.

The reduction in towing rates is received with great favor by owners, and tug men do not lose much.

The officers of the revenue steamer Commodore Perry were very busy on the river yesterday.

Ore freights advanced a shade yesterday, and it is hoped they will continue to move up all along the line.

The schooner C. H. Burton is receiving a general overhauling on Smith's boxes. She will also get a new jibboom and bowsprit.

The steamer Keweenaw which arrived yesterday from Buffalo and cleared for Green Bay reports the passenger business exceedingly good.

The propeller Vienna had a new foremast put in yesterday. This is a very fair stick and does not show a knot its entire length. It was made by Presley & Co.

Schooner Guiding Star, Captain R. C. Cole, which arrived on Tuesday with the fourth cargo of ore from Marquette on a six trip contract, will take coal to Hancock.

Last Thursday while the V. Swain was lying at Presley, Arthur & Co.'s coal dock John McMullen fell from the main deck through the after hatch. He was picked up insensible and conveyed to the hospital where he soon after died. He was a single man and lived in Detroit.

Schooner Havana, recently ashore at Forester, arrived here on Sunday in tow of tug Mocking Bird with steam pump. She will go into Globe Drydock for repairs which will consist of some new plank in her bottom, calking; also repairs to her rudder. She had her main sail, and boom, fore sail and gaff carried away.

Ex-Sheriff J. M. Wilcox, of this city, recently took a voyage, with a pleasant party, on the steamship J. H. Duvereux, Captain Wilford, to Chicago. Although Captain Wilford did everything in his power to accommodate the party and make the trip a pleasant one Mr. Wilcox could eat nothing. It was not found necessary to attach the pony pump or any of the hoisting gear, however, but as soon as the Duvereux reached Chicago Mr. Wilcox went ashore and soon found a restaurant where the menu consisted of hot cakes and syrup. In the early days of navigation a passenger, unused to the rolling of the boat, was asked regarding the delicacies of the table and replied that "Everything was sour except the pickles." Not so with Mr. Wilcox; when asked about his repast ashore he said "Everything was sweet except the syrup." It transpired that he had used the vinegar instead of syrup on his cakes without being aware that his stomach was a fraud.

J. C. Gilchrist, of Vermillion, is in port looking after the repairs to the Havana.

While being towed up the river by tug S. S. Stone, schooner David G. Fort collided with schooner Pathfinder, lying near Globe Drydock, damaging her monkey rail and the cabin of the Pathfinder. The Fort then struck steambarge Cormorant at the transfer dock, losing her head gear bowsprit and jibboom and twisting the stem of the steambarge, after which the unfortunate Camden was struck a blow that smashed her yawl boat and inflicted other slight damages. When the bills of damage are in the life of a tug man will be overshadowed.

The tug Stranger, Captain J. Laframboise, departed yesterday evening with the schooners Pathfinder and Groton. Captain Laframboise desires to take stock in a steambarge to the amount of $5,000, at which sum he values the machinery the tug Stranger, which is to be taken in consideration. The engine is double, 20 square and the boiler is in good shape tested to a pressure of 80 pounds on the 20th of July last, and is 16 feet long, 6 feet 4 inches shell, with steel furnace rebuilt two years ago. Any person with a barge that will accommodate this machinery should address Captain J. Laframboise, Amherstburg, Ont.

At Globe Drydock since last report the Cormorant was drydocked to have a loose wheel tightened and buts caiked. The Globe Iron Works put new coupling on the main shaft. Schooner Pathfinder, received slight repairs, had buts, and two or three seams calked, around light water mark. The propeller Cormorant, received a new stem and stern iron and repairs to the damage done Sunday forenoon. Schooner Camden was docked and survey held by W. H. Radcliff on the part of the vessel and C. E. Benon the part of the underwriters. Had bottom searched up. No report yet made but damage is estimated at $5,000, about as we put it last week. Schooner Erastus Corning was drydocked for slight repairs to bottom and had buts calked. The schooner Havana ashore at Forester, and which arrived here Monday, is waiting for drydock.

Engineer J. L. Chase's sonebula or fog whistle operator, is attracting much attention and giving evidence of its merits. Mr. Chase has one of these oporators in use on the steambarge Ohio, Captain Estes. This machine was described in the MARINE RECORD, issue of January 15, and the merits there set forth have been fully demonstrated this season. The duration of the sounds, and the silent intervals, are adjustable to a second, by means of two small valves in the cylinder and it is one of the best precautions against collision in foggy weather that has ever been invented. It is of the utmost importance that intervals and duration of sounds should be regular and ought to be governed automatically, not dependent on the sleepy hand who may miss giving the required signal at the critical moment. This fact can be fully appreciated by those who have stood on deck for days, perhaps, tugging at the whistle and trying to fulfill the requirements of the law, conscious all the time that they are failing in the design. The machine is inexpensive, easily fitted, simple in starting and will work with certainty through the longest fog.

### SAULT STE MARIE.

The propeller Smith Moore, which passed up last Saturday, arrived back in a disabled condition and leaking badly. Her captain reports that shortly after leaving the canal they encountered a dense fog and lost their bearings and ran on a sunken reef abreast of the Isle Parisienp. She succeeded in releasing herself and returned here for repairs. A diver patched her up and she got away for Marquette.

The barge Minnesota was in the basin of the canal Thursday, and Diver Goadreau repaired her rudder, which was damaged by a rope getting into her wheel when she was coming out of Chicago.

## MARITIME LAW.

THE RESCUE—TOWAGE—EXEMPTION FROM NEGLIGENCE—DAMAGES.

*District Court, W. D. Pennsylvania. June 20, 1885.*

Acheson, J.

The evidence, as a whole, scarcely warrants the conclusion that there was any express agreement relieving the Rescue from that measure of care and diligence which the law imposes upon a tow-boat. But if the conversation between John Jackson and W. C. Jutte was as the latter testifies, still it would not exonerate the tow-boat from the consequences of actual negligencein the performance of the service undertaken. Powell v. Pennsylvania R. Co. 32 Pa. St. 414. The contract, however, having been entered into with the prospect of encountering ice, there was no culpability in undertaking the trip; and it may be conceded also that if there was any increased risk arising from the presence of ice, the libelant should be held to have accepted that hazard. The real question in the case then is whether the Rescue was forced upon the flat boat by the pressure of the ice or struck it negligently.

And here the weight of evidence is most decidedly against the Rescue. In backing towards the flat after the tow boat had broken the ice and opened a way to Jackson's float, there was a plain lack of that degree of care which the occasion called for. As no one was left on the flat to warn off the Rescue as she approached, it was imperative that some one should have been on watch at the stern of the tow boat. Conceding that the pilot is correct when he says the flat could be seen from the pilot house "every time I looked at her," still he had his other appropriated duties to perform and could not closely and constantly watch the flat. Hence, as he himself states, the stern of the tow boat was only about seven or eight feet from the flat when he rang the stopping bell, and the headway was not arrested in time. The flat was not only hit by the Rescue' but one of her wheel arms, coming down on the top of the flat, forced it under water. Undoubtedly, the collision could have been avoided by the exercise of proper care. The proof is clear that the disaster was altogether the result of culpable negligence on the part of the Rescue.

The libelant's claim, so far as it relates to the expense of raising and repairing the flat boat, is well made out; but the item of demurrage must be disallowed. The evidence as to actual loss here is somewhat vague, and I incline to think there was unnecessary delay in raising the flat. The controlling reason, however, for denying demurrage is that the other damages allowed are probably as much as the flat was reasonably worth when she was sunk. Now, the general rule is that the damages allowed for injuries to a vessel should not exceed her value at the time of collision, (The Venus, 17 Fed. Rep. 925,) and there is nothing in this case to take it out of that rule.

Let a decree be drawn in favor of the libelant for $459.21, with interest from July 1, 1884, and costs.

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THE WM. KRAFT—PURCHASE OF VESSEL—NOTICE OF LIEN—ESTOPPEL.

*District Court, W. D. Pennsylvania. June 17, 1885.*

Acheson, J.

While the respondents were negotiating for the purchase of the steam tow boat Wm. Kraft, Joseph, Short one of the libelants, notified them of the claim in question, and warned them not to buy until it was settled; but afterwards he returned to the respondents and informed them that the claim had been settled. The respondents then consummated the purchase, and paid the full consideration in cash and negotiable paper. So far there is no dispute as to the facts. But both respondents further testify that at the second interview Short told them the boat did not owe the libelants anything, and to go ahead and buy her. This Mr. Short denies; but I think the weight of the testimony here is with the respondents. Short's account of the matter is this: "I told him [Hodgson] the account was settled, and at the same time told him significantly that he should see that he got a good bond." But, if it be true that Mr. Short's language was that "the account was settled," the respondents had a right to infer, under the circumstances, that they were now at liberty to purchase without reference to this claim. Indeed, Short's conduct admitted of no other interpretation.

It is a customary thing for a purchaser of a steam boat to take a bond of indemnity against liens, and the respondents would naturally regard Mr. Short's observation on that subject as a friendly suggestion having respect to other and secret liens. Such bond of indemnity against liens generally the respondents did take, as any prudent purchaser of a steam boat would ordinarily do. It appears, however, that the solvency of the surety in this bond is now somewhat questionable. But the surety himself is entitled to protection against a claim which the creditors have waived, or estopped themselves from asserting.

I have carefully looked into the evidence, and am very clear that the libelants have estopped themselves from asserting a lien against the boat in the hands of these respondents. The fact is the claim was settled. True, the libelants took notes for part of it, but this circumstance was not disclosed to the respondents, or the surety in the bond of indemnity. Now, doubtless, the mere taking of a note does not operate to discharge a lien, and, as against the former owner of this boat, the lien might well be enforced, the notes being overdue and unpaid. But when the court is asked to enforce the claim as a lien, to the prejudice of the present owners and their surety, a very different question is presented. As against them good faith forbids the libelants to assest the claim.

Let a decree be drawn dismissing the libel with costs.

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## AN ANCIENT CLAIM.

A claim nearly one hundred years old against Uncle Sam will shortly be presented for payment by Attorney Laird of the firm of Marvin, Laird & Norton.

In the year 1793 the brig Hope, commanded by Captain Poole, sailed from Philadelphia laden with merchandise. While upon the high seas the vessel was captured by a French privateer and taken to Cape Francois, on the island of San Domingo, where its corgo was plundered and the vessel was sold to the people at the cape. The owners, Edward Dunant and Joshua Gilpin of Philadelphia, presented a claim to the government for $11,130 55, but payment was refused. The heirs, however, have pushed the claims and last winter congress passed a law authorizing the payment.

A short time ago Mr. J. C. Williams of this city was appointed administrator de bonis non for the estate of Edward Dunant. Mr. Laird will act for Mr. Williams in a legal way and present a petition for $5,565 27 to the court of claims in Washington.

The petition states that "Edward Dunant had a valid and admitted claim for indemnity upon the French Republic for such illegal capture, detention, seizure, condemnation and confiscation prior to the ratification of the convention between the United States and the French republic, concluded on the 30th, day of September, 1800, the ratifications of which were exchanged on the 31st of July following; that this claim as appears from the averments herein contained was not embraced in the convention between the United States and the republic of France concluded on the 30th of April, 1803, and it was not a claim growing out of the acts of France, allowed and paid in whole or in part under the provisions of the treaty between the United States and Spain, concluded on the 22d of February, 1819; and that it was not allowed and paid in whole or in part under the provisions of the treaty between the United States and France, concluded on the 4th of July, 1831."

Last winter, however, as stated above, congress provided for the payment of the claim.—*Cleveland Herald.*

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## RACING WITH A LIGHT.

Captain Hutchinson, of the tug Favorite, gives a racy account in the Inter Ocean, of a recent contest he had with a lighthouse. He says: "Towing barges is not such an easy thing as it looks. I have towed my three barges down this lake a great many times when we did not make a single mile to windward in hours. On the contrary I have noticed ourselves drifting to leeward a great many times during a gale of wind. We never let the barges go to take up an anchorage because it is such a big job to pick them up again, and on that account we hold them into the wind if such a feat is possible. Why, I have run many a race with the light on Two Rivers Point. I recollect one night last fall when we were coming up with our barges in a southeaster. We succeeded in getting as far as the point light, and then we raced with that light all night long. First we would get a little ahead of it, and then the light would get a little ahead of us, but neither gained any decided advantage until after daylight, when we were compelled to race with the lighthouse. The latter did not seem to be as speedy as the light, and we gained on it so much that by noon it was out of sight. I have run a race with Milwaukee North Point light, too, in a northeaster, but I never had much trouble in beating it."

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Discussing the Erie canal question, the New York Journal of Commerce yesterday said: "The canal belongs to the people of this state, and they ought now, more than ever, to make ample provision for its preservation and improvement. If the Erie canal is neglected it will in a few years cease to compete vigorously with its great railroad neighbor for freights to and from the west. To maintain the efficency of the canal liberal yearly appropriations are needed. These should be made and wisely applied, and we shall then have no fears that the New York Central will be able to impose and collect exacting rates during the seasons of navigation. The duty of strengthening the canal for its future work was never as imperative as now. The Legislature at its next session should take this neglected matter in hand with the least possible delay and satisfy the just demands and expectations of the people."

## COCOANUT CELLULOSE AS A LINING FOR SHIPS.

The long standing rivalry between heavy ordnance and armor plates is likely to be disposed of in a manner little expected, as a means appears to have been discovered whereby the effects of shot and shell, and even torpedoes, will be effectually neutralized. For some time past naval architects have ceased to rely solely upon armor for the protection of ships, for, notwithstanding the enormous thickness to which armor plates had attained, they were found to be no match for the artillery brought to bear upon them. Steel plates and compound plates were next tried but to no avail. As a further increase in the thickness of plates, whether of iron or steel or both combined, was impracticable, owing to the overweighting of vessels with armor, shipbuilders tried the expedient of supplying a second line of defense in the coal bunkers, which were constructed along the sides of ships, especially those parts where the machinery and magazines are located. They certainly, to some extent, furnished that second line without overburdening the vessel, for coals have to be carried under any circumstances.

But a far more effective protection appears now to have been supplied by the invention of a composition which, besides being efficacious as a protector, possesses the merit of being light—a desideratum much wanted by naval constructors. This composition is a preparation obtained from cocoanut cellulose, which has the remarkable property, when penetrated by shot and shell, or even after the explosion of a torpedo, of closing up as rapidly as it has been penetrated, thus preventing the influx of water into the ship's hold. The very appropriate name of "coffer dam" has been given to the preparation, which, besides being very light, is highly elastic and tenacious. Some important experiments have lately been made with the composition before a French commission at Toulon, which, if everything that is reported concerning them is true, prove the preparation to be destined to solve the armor plate controversy. The commission submitted the composition to a threefold test against shot, shell, and torpedo. The target was a coffer dam made of a mixture of 14 parts of pulverized cellulose and 1 part of cellulose in fiber. This composition was compressed to a felt-like mass, of which 1 cubic foot weighed about eight pounds. A layer of beams 4¾ inches thick represented the side of the ship, behind which there was a layer of coffer dam 2 feet thick Against this target a 7½ inch solid shot was fired, which penetrated it, taking with it not quite one-fifth cubic foot of composition, a very small quantity, considering the size of the shot. But as soon as the shot had passed through the target the cellulose composition closed up again, and so firmly that a strong man was unable to force his arm through the opening made. A box filled with water was then fixed against the aperture, the contents of which ought to have acted in the same way as if the coffer dam had been washed away by the sea. It was observed that a few drops of water began to percolate after the lapse of from 10 to 15 minutes; and even after the composition had become well saturated with water, only between 3 and 5 pints of water escaped per minute, which could be easily intercepted by pails. As soon as the cellulose had become thoroughly soaked and grown denser, it offered greater resistance to the percolation of water, which finally almost ceased to flow. The experiments with shell gave similar results, the breach made closing automatically. It was almost found that the coffer dam was proof against fire. A special experiment was made in which red hot coals were placed upon a mass of coffer dam, and covered with the same composition, the result being that the fire went out. The experiments with torpedoes were not so decisive as those with shot or shell. A chest was anchored out at sea, one side of which was lined with coffer dam, a torpedo attached to it, and exploded. The chest floated for a few seconds, and then sank. When fetched up by a diver, it was found that the lid had been blown off, but that the coffer dam composition was little injured. The above experiments appear to prove that the material in question possesses the property of automatically closing a leak caused by shot or shell, and of protecting a ship to a certain extent against fire. Whether its use will render ships unsinkable remains to be shown, but we understand that in order to investigate this point thoroughly further experiments on a larger scale are to be undertaken by the Toulon commission.—*Scientific American.*

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## THE FERRY WAR.

The Sarnia Sun says: The ferry war is bearing large fruit. James S. Loughead, through Messrs. Lister & Cowan, has commenced action in the High Court of Justice against James Moffat, of Port Huron, for damages. The claim is made that on Wednesday, July 22d, while the ferry men were pleading with the excursionists to take the respective lines Moffat made several assertions regarding the safety of the Essex as a ferry boat. Loughead claims that Moffat cried out that the Essex was unsafe, that she was 24 years old, and that she had been condemned. It is claimed that this caused a good many of the passengers to leave the Essex, and that the report going abroad that the boat is unsafe, Loughead has been materially damaged. In the writ which has been issued no set sum of damages is alleged, but it will be put up pretty high when the necessary time comes. Captain Moffat denies the allegations made by Mr. Loughead.

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The steamboat inspectors are after the scalps of owners who refuse to employ watchmen on passenger steamers, no matter what their size may be.

## RAFTING ON THE UPPER MISSISSIPPI RIVER.

*Written for the Marine Record.*

BY THE SECOND ENGINEER.

PART I.

In the earlier days of steam boat travel for pleasure upon the Upper Mississippi, tourists were amazed at the great number of floating rafts encountered, their magnitude and the apparent ease with which they were manipulated, swinging from point to point, obedient to the will of the pilot. In the early period of rafting the rafts were all floating rafts, the innovation of steam boats for towing had not been dreamed of.

The Upper Mississippi proper is divided from the Lower Mississippi by the intervention of the Ohio at Cairo, but steamboat men almost universally make St. Louis the dividing line, hence to speak of the Upper Mississippi is taken to have reference to that portion of the river above St Louis, and so I shall use it. On the left bank, fifteen miles above St. Louis, the Missouri River mingles its liquid mud with the Mississippi, while forty-five miles further on, up on the right bank, the clear water of the Illinois unites with it. On the left, between the Illinois and Keokuk, come the Quiver, the Iowa, and the Des Moines, all of which are, or were at one time, navigable rivers for small boats during certain periods of the season. The next stream, whose flow aids in swelling the Mississippi, is Fever River, a short, muddy and stagnate stream, and at the head of its navigable portion rests the unromantic, yet somewhat famous, City of Galena, a city wherein is located the board of inspectors, yet steamboats are seldom inspected from her hospitable shore. Still advancing north, the rugged Wisconsin River puts the traveler eighty-five miles above the Fever, and it also enters from the right hand side. Seventy-five miles higher, and still up on the right hand side, we find Black River, at the mouth of which stands La Crosse. Ninety miles further on, and still upon the right hand side, you encounter the Chippewa, which touches the Mississippi from the right, and at the foot of the lake (Lake Pepen.) About forty miles further the St. Croix River spreads out to the right, while the Mississippi, narrow and clear, takes its serpentine course on toward St. Paul and the Falls of St. Anthony, the latter being nine miles from St. Paul, and forty miles from the mouth of the St. Croix. The great lumbering country of the States of Minnesota and Wisconsin is drained by the Mississippi above St. Paul, by the St. Croix, Chippewa, Black, and Wisconsin Rivers. Logs from the Mississippi, destined for the lower country markets, were sent over the falls, and made up into rafts below, or sawed into lumber and then rafted. The St. Croix afforded sea room at the foot of St. Croix falls, in fact from the dolls to Stillwater, is one continuous rafting ground. The Chippewa has two outlets, the mouth through which the lumber is floated in small pieces, for the river is very shallow and extremely narrow, and Beef Slough, a cut off that branches out from the river a few miles above the mouth, and strikes the Mississippi nine miles below the interception of the Chippewa, and it is through this basin-like stream that the great fields of logs with their millions of feet, go to supply the demand of the lower country, after having been converted into rafts.

In reverting to the past, and speaking of primeval rafting, it must not be forgotten that this country is, as compared to other sections, absolutely new. Less than fifty years ago it was considered a great feat, in fact, an adventurous one, to go to Fort Snelling, situated at the junction of the Minnesota and the Mississippi, five or six miles above St. Paul. Fifty years ago, such towns as Keokuk, Burlington, Davenport, Dubuque, La Crosse, Winona, and St. Paul, cities that are prominent in commercial history, were either not known, or if known, were merely Indian trading posts. As early as 1849, there was some rafting done, St. Louis being the market point, while in 1854-55 several large mills were built in Minnesota, and lumber was started up on its mission. The lumber, after passing from the saw, is rafted in a shed upon a sort of cradle, in the following manner. They take some pieces, say 2x3, build a frame, as though they were going to build a pen. Pins are placed at each corner and one or two in each side. These pins, being about an inch and a half in diameter, and having a head upon one end, cannot pull through. The lumber is then piled up on this frame in what is called courses, a course representing one inch board. These frames are called "cribs," and are generally about fourteen feet wide by seventeen feet long. In the early floating days they would raft for low water as low as eight or nine deep—that is eight or nine courses, representing a corresponding number of inches. While in high water they would go as high as twenty-two deep. These "cribs" when rafted to the proper depth, are fastened by pieces laid upon the top to correspond with the bottom, and the pins are then wedged fast. These planks, used for fastening, are called, in the nomenclature of rafting science, "grub plank." The cribs are then launched into the water, and are fastened end to end into what is known as a "string," which, in floating days, would be ten or twelve cribs long. The strings are then fastened together for a floating raft of from eight to

ten strings. A large size floating raft would be 170 feet long by 140 feet wide, twenty-two courses deep, and would contain in the neighborhood of a million and a quarter feet of lumber. Upon the raft thus made would be built a rope shanty, cook shanty, pilot shanty, and the men would fill the raft with small shanties, where they would sleep at night. In addition to the lumber there would be the "top" load of shingles and lathes, which were not counted in the number of feet contained in the raft.

"KARAN KRINGLE'S JOURNAL," by Miss Karan Kringle, of Klodsville, Ohio, is a new book in press and to be published in a few days by T. B. Peterson & Brothers, Philadelphia, Pa., and it is one of the brightest, cleverest and most comical of recent humorous romances. There is a hearty laugh on every page, and the drollery is, here and there, mixed with pathos and sensation, several highly interesting love episodes being introduced. Karan is an old maid, but genial, good hearted and shrewd. She receives a legacy, whereupon she becomes prominent, and goes through a series of the most ludicrous adventures and experiences possible to imagine. Everybody should read this capital work, and all who do will be both highly amused and thoroughly entertained. The book is copiously illustrated with twenty-one handsome engravings, printed on tinted paper, depicting some of the most comical episodes, which add greatly to its attractiveness. It will be published in a large duodecimo volume, bound in morocco cloth, price $1.50, and its popularity will no doubt be great and lasting as that of "Major Jones's Courtship" and "Major Jones's Travels," written by Major Joseph Jones, of Pineville, Georgia.


SUBSCRIBE

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Marine Record.


## LAKE SHORE & MICHIGAN SOUTHERN.

Commencing Sunday, June 28 1885, at 12 o'clock noon the time given in the figures below is the new standard (Ninetieth meridian) time, which is thirty-three minutes slower than Cleveland time proper.

| Eastward. | Arrive | Depart. |
|---|---|---|
| No 4, Fast Limited Express | °2 55 A M | °3 15 A M |
| No 8, N Y, B & A Express | °8 20 A M | °8 45 A M |
| No 26, Elyria Accommodation | †7 45 A M | ..... |
| No 35, Buffalo Ac'm via Sandusky | †10 30 A M | †10 50 A M |
| No 35, Toledo Accom via Norwalk | †10 30 A M | †10 50 A M |
| No 12, N Y & B Fast Express | °2 20 P M | °2 45 P M |
| No 2, Night Ex via Norwalk | 9 40 P M | †10 00 P M |
| No 22, Night Ex via sandusky | †9 40 P M | ..... |
| No 26, Conneaut Accommodation | †4 25 P M | ..... |

| Westward. | Arrive. | Depart. |
|---|---|---|
| No 1, Fast Limited Express | °12 15 A M | °12 25 A M |
| No 23, Mich Express via Sandusky | °2 15 A M | |
| No 3, Chicago Express via " " | §6 05 A M | 6 30 A M |
| No 25, Mich Accom Norwalk | ..... | †6 30 A M |
| No 21, Toledo Ex via Norwalk | †12 50 P M | †3 30 P M |
| No 5, St Louis Ex via Sandusky | *10 30 A M | °10 40 A M |
| No 9, Chi Pac Ex via Norwalk | 6 15 P M | °6 4° P M |
| No 31, Elyria ac to Elyria only | ..... | †4 30 P M |
| No 27, Conneaut Accommodation | †8 10 A M | ..... |

Sunday train for Nottingham—Depart 8:15 a. m. and 1:45 p. m.; returning, leave Nottingham at 8:50 a. m. and 3:45 p. m.

Reference marks—° Daily, † daily, except Sunday, § daily, except Monday.

A local Cleveland and New York sleeper daily on No. 12, leaving Cleveland at 2 45 p. m.; arrive Grand Central depot, New York, 10 30 a. m

For full information as to trains and connections apply at the Union ticket office, corner Bank and Superior streets, under Mercantile Bank.

## The Nickel Plate!

**NEW YORK, CHICAGO & ST. LOUIS RAILWAY.**

The passenger equipment of this New Trunk Line is all new and is supplied with the latest appliance necessary to safe speedy and comfortable travel.

Trains leave and arrive at the Union Depot, Van Buren street, Chicago, and N Y, L E & W R'y depot at Buffalo.

Following is the time in effect June 28, 1885, and until further notice:

| EASTWARD. | Arrive. | Depart. |
|---|---|---|
| Buffalo Accommodation | °10 40 A M | °10 45 A M |
| Chicago Accommodation | °9 02 P M | ..... |
| Local Freight | °1 45 A M | °12 15 P M |
| WESTWARD. | Arrive. | Depart. |
| Chicago Accommodation | ..... | °6 45 A M |
| Fostoria Accommodation | °4 46 P M | °4 51 P M |
| Local Freight | °12 20 P M | °12 50 P M |

ROCKY RIVER ACCOMMODATION.

Depart—°7:45 a. m., °1:35 p. m., §10.50 a. m., §5.45 p. m., §1.35 p m

EUCLID ACCOMMODATION.

Depart—°6 24 a. m., °9:10 a. m., °5:05 p. m., §8 45 a. m., §12.15 p. m., §4 25 p. m.

°Daily except Sunday. §Sunday only.

Through tickets to all points are on sale at principal offices of the company at LOWEST RATES for any class of tickets desired. Baggage checked to destination

For information, call on nearest agent of the Company, or address

B. F. HORNER, Gen'l Passenger Agent,

LEWIS WILLIAMS, General Manager, Cleveland, O.

## BEE LINE.

CLEVELAND, COLUMBUS, CINCINNATI & INDIANAPOLIS.

Commencing Sunday, November 23, 1884, trains of the Bee Line—Cleveland, Columbus, Cincinnati & Indianapolis Railway—will leave and arrive at Cleveland as follows, CENTRAL STANDARD TIME, 33 minutes slower than Cleveland time:

| | Depart |
|---|---|
| No. 3, Columbus, Cincinnati & Ind Ex | 9:00 A M |
| No. 23, Galion & Wheeling Express | 6:50 A M |
| No. 9, Col., Cin., Ind & St. Louis Ex | °6:50 P M |
| No. 5, Col. Cin., Ind. & St. Louis Express | °12 25 P M |
| No. 27, Galion & C. I. & W. Acc | 3:30 P M |
| No. 29, Massillon & Ulrichsville Ex | 4.30 P M |
| | **Arrive.** |
| No. 8, Col, Cin, Ind. & St. Louis Exp | °6:40 A M |
| No. 20, Uhrichsville & Massillon Ex | 8:55 A M |
| No. 2, Col. Cin. & Indianapolis Express | 9:50 P M |
| No. 14, St, Louis, Ind.. Cin. & Col. Ex | °4:45 P M |
| No. 22, Galion Acc | 9:20 A M |
| No. 26, Wheeling Accom | 4:15 P M |
| No. 4, Col., Cin. & N. Y. Express | 1:15 A M |

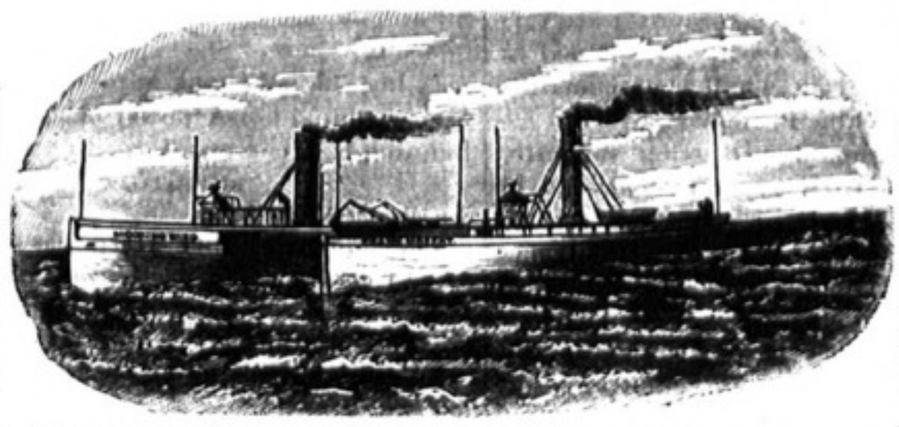
Trains marked ° daily, all other trains daily except Sunday

E. B. THOMAS, General Manager. O. B. SKINNER, Traffic Manager.

A. J. SMITH, General Passenger Agt., CLEVELAND, OHIO.


# MOFFAT TUG LINE.

TUGS. MOCKING BIRD, JOHN MARTIN, FRANK MOFFAT,



TUGS. ADMIRAL PORTER, KITTIE HAIGHT, RIVER QUEEN.

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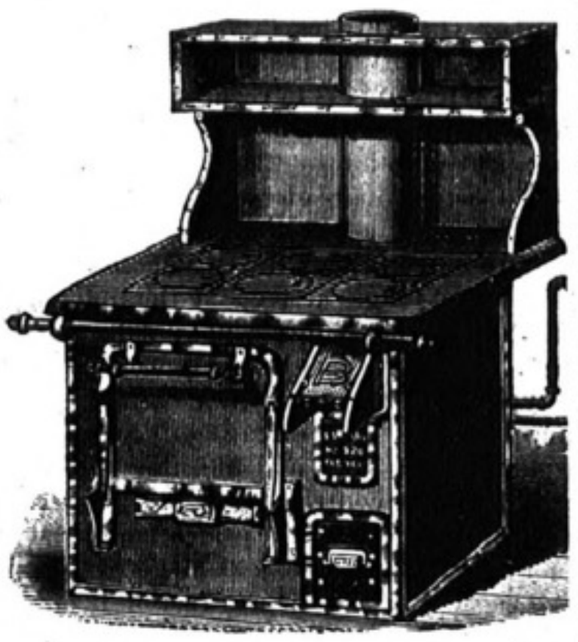
**WROUGHT STEEL RANGES FOR STEAMBOATS, Hotels & Restaurants.**



Born's Wrought Steel Range, 9x24, has one oven 24x24, and 15½ inch high has 6 9-inch boiler holes; top cooking surface, 3 feet 4 inches, by 2 feet 7 inches.

No. 9x26 Wrought Steel Range has one oven 26x26 and 15½ high, has 6 9 inch boiler holes, top cooking surface 3 feet 10 inches by 3 feet.

No. 9x26 Range has 10 9 inch boiler holes Size of ovens 26x26 inches each. Top cooking surface 6 feet by 3 feet.

No. 9x18 double oven range has 8 9 inch holes. Size of ovens 18x26 inches each. Top cooking surface 5 feet by 3 feet

These are durable well made ranges, adapted to Vessels, Hotels and Restaurants SEND FOR PRICES F. & H. BORN, Cleveland, O.


### OFFICIAL NUMBERS AND SIGNAL LETTERS.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION, WASHINGTON, August 4, 1885.

*To the Editor of the Marine Record:*

Following is a list of merchant vessels of the United States to which official numbers and signal letters were assigned by the Bureau of Navigation, Treasury Department, during the week ended August 1, 1885:

| Official Number. | Signal Letters. | Rig. | Name of Vessel. | Tonnage. Gross. | Net. | Home Port. |
|---|---|---|---|---|---|---|
| | | | SAIL VESSELS. | | | |
| 3,325 | ..... | Sc. | Barter, | 28.82 | 27 39 | Wilmington, N. C. |
| 126,308 | ..... | Sl. | Cr is, | 10.33 | 9.81 | Cambridge, Md. |
| 76 591 | ..... | Sl. | John G Hurley, | 10.25 | 9 74 | do |
| 76,592 | ..... | Sl. | James Carroll, | 11.47 | 10 90 | Perth Amboy, N. J. |
| 150 355 | ..... | Sl. | Puritan, | 10.51 | 9 98 | Gloucester, Mass. |
| 145,411 | ..... | Sc. | Thomas F. Bayard, | 100.82 | 95.98 | do |
| | | | STEAM VESSELS. | | | |
| 126 309 | ..... | St s. | Chicago, | 88.54 | 44.27 | Ba'timore, Md. |
| 135,853 | ..... | St. s. | Estella, | 18.21 | 11.94 | Port Townsend, Wash. |
| 190,621 | ..... | St. s. | Frances R. Anderson, | 30.81 | 15 41 | Chicago, Ill. |
| 110,680 | ..... | St, c. bt. | Richard K. Fox, | 137.71 | 105 71 | Buffa'o, N. Y. |
| 116,056 | ..... | St. y. | Sophia, | 20 51 | 10 76 | Tacoma, Wash. |
| 145,410 | ..... | St. p. | T. P. Leathers, | 458.60 | ..... | Wheeling, W. Va. |
| | | | UNRIG'D VESSELS. | | | |
| 35,479 | ..... | Barge. | December, | 109.07 | 103.78 | New York, N. Y. |
| 51.156 | ..... | C. Bt. | Minten F. Paine, | 141 27 | 134.15 | Oswego N. Y. |
| 67,250 | ..... | Barge | November, | 109.11 | 103.66 | New York, N Y. |
| 53.243 | ..... | Barge | October. | 117.46 | 111.59 | do |

JARVIS PATTEN, Commissioner of Navigation.

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For Toledo Steamer FLORA leaves Detroit every Sunday evening at 9 o'clock. Returning leaves Toledo Tuesday at 8 o'clock a. m.

For Cleveland, Lorain and Huron Steamer ATLANTIC leaves Detroit every Thursday morning at 9 o'clk. Returning, leaves Cleveland Friday at 8 p. m.

For rates of freight or passage apply on board the boats or to GEORGE CHAMBERLAIN, Agent. Dock foot of Superior street.

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# The Marine Record.

**Published Every Thursday at 144 Superior Street, [Leader Building.]**

**A. A. POMEROY, Editor and Proprietor.**

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Articles, letters and queries on all subjects are solicited.

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Entered at the Post Office at Cleveland as second-class mail matter.

**CLEVELAND, OHIO, THURSDAY, AUGUST 13.**


## *GREAT CIRCLE SAILING.*

From the earliest days of navigation, the Egyptians and Phœnicians being the pioneers, down to the inception of the Hanseatic League, a celebrated commercial confederacy formed among certain important cities of North Germany, in the thirteenth century, the science made no great strides; no great improvement was noted, everything pertaining thereto being followed in its primitive simplicity. This league, however, which grew into a mighty power in the fifteenth century, and comprised eighty-five of the principal commercial cities, constructed many ships and perfected and improved the methods of sailing them on long voyages. From these improvements the present system of navigation was evolved. The present rules for the guidance and information of mariners entitled "Usages and Customs of the Sea," were drawn up and adopted by the Hanseatic League and forced upon other maritime nations. The progress of navigation from that period down to the present time may easily be traced, in the perfection of the mariner's compass, the quadrant and sextant, and the comprehensive charts, of all known waters, published from time to time, as research and discovery make it necessary.

For some time after the invention of the mariner's compass, however, navigation was still very imperfect, in consequence of the inaccuracies of the plane chart, which was the only one then known, until the publication of Mercator's chart, which greatly altered former theories on the navigation of the ocean. At the first appearance of this chart it was not rightly understood, but in 1592 its merit was fully acknowledged and seven years later it was universally adopted as standard. Recently, however, Professor Richard A. Proctor has published charts for great circle sailing, the details of which, as illustrated in the Scientific American Supplement, are very interesting in their developments and promise to again revolutionize the present straight or rhumb course of sailing on the ocean. The chart produced by Prof. Proctor is a stereographic projection, each point on the sphere being projected on a tangent plane by a line joining the point and the outer end of the tangential diameter the chart gives the entire globe except a small area within the Antarctic circle and is well adapted for plotting a great circle course. By the method given in connection with the chart, says the writer, a seamen may lay down without any difficulty the shortest track between two ports, that is the arc of a great circle joining those ports on the shortest distance between any port reached during the voyage and any desired haven, and can calculate the distance. Ordinarily, vessels follow what is termed the rhumb course; that is, the same compass bearing, aside from magnetic variation, is maintained throughout the journey, but it is held that a great saving of distance is effected by sailing on the arc of a great circle; for instance the distance from Melbourn to Cape Town is 6,154 miles on the direct course but is 587 miles shorter on a great circle. The advantages of the circle sailing have been known for years but owing to the difficulties of calculating and plotting the course it has never come into general use. It is the purpose of Prof. Proctor to simplify and make practical this system by using the antipodes of the ports of departure and arrival of great circle sailing as tangents. It is said that the methods laid down by the professor are very simple and will be easily understood by navigators of even small mathematical knowledge. While Professor Proctor admits that the gnomic projection suggested by Mr. Hugh Godfray, for charts to be used in great circle or composite sailing, (sailing on all courses) was a great advance on the old customs the area represented on one chart was necessarily limited, which made it impossible to lay down a ships course of any extent on one chart, and the process of calculation was too complicated, all of which difficulties he claims are abrogated by his system of great circle sailing. While it is possible that but a limited number of lake navigators will have opportunity to test this theory by actual practice, its demonstration will be closely watched by them and any material improvement that transpires will be carefully noted.

## *INSURANCE PREMIUMS.*

A question long in controversy has finally been decided by Judge Wallace, of the Circuit Court, Northern District of New York, on appeal from a decision of Judge Coxe, of the District Court, the Circuit Judge sustaining the District Judge. The question referred to is in regard to the right of an insurance company to libel a vessel for unpaid premiums. The case in point was laid before the readers of the RECORD of the 30th ult., the line of argument therein being presented in full, by which both of these learned judges arrived at the opinion that a libel of that nature could not be sustained. Judge Wallace bases his decision on the hypothesis that an insurance contract or policy is not a maratime contract, inasmuch as it does not aid the vessel; that it does not contribute to the general fund, but is merely for the protection of the owner against the possible damage or loss of the vessel; that is, the contract of insurance is merely a precaution taken by the owner, to whom the entire sum of the policy inures in case of the loss of the vessel. While a master is clothed with almost absolute power in the control and management of the ship, even to the sale thereof, if necessity justifies, he cannot make an insurance contract unless he owns the ship, for the reason that such contract does not in any respect benefit the ship, and neither is the owner compelled to surrender the insurance to a trustee under the statutes limiting the liability of a vessel owner for the benefit of those having claims against the vessel when it is lost after liability accrues.

## NOTICE TO MARINERS.

Notice is hereby given that, on and after August 20, 1885, there will be shown from the new structure recently erected near the mouth of the Detroit River, Lake Erie, Mich., a light of the following characteristics:—

It will be of the 4th order and illuminate the entire horizon, showing fixed white for one minute, followed during the next minute by six consecutive white flashes at intervals of 10 seconds.

The focal plane is 45 feet above the base of the tower and 56 feet above the level of the lake.

The light should be seen, in clear weather, from the deck of a vessel 10 feet above the lake, 14 statute miles.

It will be exhibited from an iron circular tower, painted brown; lantern, black; standing on a masonry pier. There is also on the pier a fog signal house of corrugated iron, painted the same color as the tower.

The approximate position of the lighthouse, as taken from the Lake Survey Charts, is as follows:

Latitude, 42° 00' (00")
Longtitude, 83° 08' (22")

The magnetic bearings and distances of prominent objects are as follows:

Bois Blanc light (Canadian,) N. by E., 6 1-7 statute miles.

Gibraltar (discontinued light,) N. N. W., 6¾ statute miles.

Monroe Light, S. W. ¾ W., 12 2-5 starute miles.

Vessels entering the Canadian channel, by keeping on the range joining the new lighthouse with that on Bois Blanc Island, will clear the shoals to the southward and westward of Bar Point, marked by the buoys of the Dominion Government.

During thick and foggy weather there will be sounded at this station a 10-inch steam fog whistle, giving a blast of 5 seconds' duration followed by an interval of 25 seconds.

by order of the lighthouse board.

STEPHEN C. ROWAN,
Vice-Admiral U. S. Navy, Chairman.

[*Continued from 1st Page.*]

### FRANKFORT.

*Special to the Marine Record.*

Lieut. Rogers, United States Life Saving Inspector, was in town on official business last Thursday, and left on the propeller Champlain to visit North Manitou and Beaver Island stations.

The steambarge Gratwick and tow barges Freer and Marvin are loading 2,000,000 feet of pine for Tonawanda.

The tug A. McMillan has arrived from St. Joseph, her home port, and will engage in fishing here. She was built at Saugatuck in 1872, is 14 tons burden, her engine has a nominal horse power of 19. Captain Benning is in command. BURMEISTER.

### BUFFALO.

*Special to the Marine Record*

The supply steamer Haze has returned from a cruise of inspection to Lake Erie light stations. She will visit Lake Ontario ports during the next two weeks.

The barge M. R. Warner has completed her repairs and got away with a cargo of coal for Milwaukee in tow of the steamer Fred Kelley.

The steamer Onoko arrived light from Erie on Saturday at 6 a. m., and at noon had aboard 2,800 tons of coal, took on fuel in the afternoon, and departed for Milwaukee at 6 p. m.

At the Union Yard the steamer Tuttle took on a new Trout wheel; schooner Maxwell received some necessary repairs, including a leak which manifested itself at Erie last week; propeller B. W. Blanchard is having the damage caused by fire at Milwaukee repaired.

Barge Banner had leaks stopped at Mills' dock; the barge Midnight is also having leaks stopped.

Receipts by lake for the week ended on the 8th, included 59,880 barrels of flour and 1,259,820 bushels grain, mostly wheat. By canal were shipped 1,055,450 bushels grain. Coal shipments by lake for the week were 45,040 tons, and for the season they are 682,470 tons. For the corresponding period last year they were 699,150 tons.

The Belle Cross, with four lumber laden barges, arrived on Sunday. The Clement and Fitzhugh were brought in here, and the Cross, with the Chicago Board of Trade and G. H. Ward, passed down to Tonawanda. Her other two barges, Little Jake and E. F. Gould, which waterlogged, were left in Detroit River, to be docked at Detroit. I.

### BAY CITY.

*Special to the Marine Record.*

Dockwollopers are receiving 40 cents an hour along the river.

The Donaldson, Wesley, and Cohen are loading lumber for Chicago.

The schooner Senator Blood, Captain Carson Glass, arrived in the river Sunday in tow of the tug Frank Moffat. The Blood has on 550 tons of coal, 250 tons for Gordon, of this city, and the balance for Tawas parties.

The revenue cutter Fessenden arrived here Monday, and is stirring up the boys.

The fishing boat Anna, belonging at North Island, was capsized several days ago while on the way from Bayport to North Island. The occupants of the boat were George Thompson, of this city, and a fisherman whose name was not learned. A heavy sea was running at the time, and it was with great difficulty that the men were rescued from their perilous position by the people on North Island.

The steam yacht Col. I. Camp, of this city, has been chartered by a party of gentlemen from Saginaw, who style themselves the ten orphans. The Camp will take the orphans to Point Lookout, where they will give a concert on Thursday night.

The steamer C. B. Hull started for Point Lookout on Sunday with a party from up town, but on arriving here they concluded that the metropolis was good enough for them, as the seas were running rather high just at that time.

The steamer Charles B. Hull, that has recently been rebuilt and thoroughly overhauled at Wheeler & Crane's shipyard, will engage in the excursion business for the balance of the season at East Saginaw. The Hull accommodates from forty to fifty people, and is a well adapted boat for that line of business. She is commanded by Captain Byron Armstrong.

There are quite a number of barges on the river that have made only one trip this season so far, which is very encouraging to their owners.

The barge Sylvia Morton has secured a load, and is putting it on at S. G. M. Gates' mill.

The fire tugs are about the only tugs on the river that are holding their own at the present time.

The tug Frank Moffat brought the barges Senator Blood and Sunbury in on Sunday.

The Propeller D. Leuty and tow are here, but had not started to load Tuesday.

Five of the T. & S. T. Co.'s barges are in waiting for loads at this port.

The propeller J. P. Donaldson and tow go to Chicago this trip.

The propeller Canada arrived in the river Monday, but for what is one of the things we could not find out. SHAW.

### DETROIT.

*Special to the Marine Record.*

Within the past few days it has been demonstrated that despite the ruling of low freights, and during a portion of the time none at all to be had, there are other purposes by which vessels may be utilized, and in one instance, at least, it has been brought about by converting the schooner Dauntless, a Canadian vessel, into a floating, otherwise portable, theater. A few days since she was chartered by J. M. Jones & Son, brokers in this city, to Canadian parties, for such a purpose, and her name changed for the time being to H. M. S. Pinafore. Meanwhile she has been repainted black, with port holes, which gives her much the appearance of a man of-war. From the after-part of the ship to the fore-hatch both staging and scenery have been constructed in good shape, giving her a decidedly dramatic appearance. All the above arrangements were carried out to completion on Saturday last, and she now lies anchored at Sandwich, which locality has been recently named Manhattan, and of late has become a popular place of resort, visited every half hour by one or more of the Detroit and Windsor Ferry steamers, with crowds of people. Presumably, the first play on board will be that for which the vessel is named after, and so on to the end, which time, ere long, will determine. The vessel registers 156 tons, but has a carrying capacity of 345 tons. It is not at all likely that other vessels, to stave off the dull times, will follow a like course; yet it is a new feature of lake commerce.

The steamer W. J. Averell, which has been in ordinary at this port for a short time past, after being repainted and overhauled, took on a cargo of grain for Buffalo, and has taken her departure.

The Iron Chief, Iron Cliff, Iron Duke, and W. H. Rounds have also taken grain cargoes here for Buffalo, all of which were at 1½c.

The propeller John Pridgeon, which stranded on Grassy Island, as reported in my last, was brought back and placed in the Detroit dry dock for a new rudder.

The schooner Swallow, laden with ore from Escanaba, passed here the other day in a leaky condition, with an extra crew on board, who were actively exercised to keep her free. She went to Ashtabula, and will return here for repairs, thence coal from Toledo to Racine at 65c.

The barge Colonel Brackett, lumber laden, arrived here a day or two since in bad shape in tow of the tug Music. She waterlogged on Lake Huron, and after an examination on reaching here, a plank about eight feet long had disappeared from the after part of the vessel. Although lumber loaded it is a matter of surprise that she arrived here.

Within the past week Lake Huron has been more than usually turbulent, and quite a number of craft, notably lumber vessels, have shared such mishaps.

The new lighthouse, about completed at the mouth of the Detroit River by the United States Government, will be lighted for the first time on the 20th inst., when it is thought the Bar Point lightship will be removed, when efforts will be made to have her stationed off the foot of Bois Blanc, where she is much needed.

The crib for the new Canadian lighthouse, recently planted on Colchester reef, was seriously interfered with by the gale a few days since, and for a time the work was entirely stopped. The location is much exposed with shoal surroundings, and as a consequence the progress of the work will be much delayed.

Captain Morris Barrett has been appointed master of the tug Oneida at this port in the place of Captain Benstrau, resigned.

Mr. John S. Quinn, the submarine diver who took part in the release of the schooner Havana, ashore a few days since on Lake Huron, awards high praise to the Sand Beach life saving crew, who worked like heroes in getting the vessel off. The Sand Beach life crew are composed of the right kind of metal, and are as follows: Captain David Dues, James Henderson, Joseph McCash, Edward Prescott, Benjamin Lewo, Eugene Brown, Charles Lebot, C. Nicker, James Roberts, all of whom in times past have always been in readiness to render timely aid under like emergencies.

A new steambarge, named the Juno, built recently at Wallaceburg, Ont., is at present lying at Walkerville, above Windsor, and nearly ready for business. Captain Allen commands her.

The tug Oswego, of Grummond's line, has retired from service for the time being, and her crew paid off. Meanwhile her boilers are to be thoroughly overhauled.

The steamer Evening Star brought to this port on Saturday, from Toledo, 400 excur-

sionists. The steamer Pearl on Sunday arrived from Cleveland with a large number, and after landing them took a goodly number of Detroiters to Lake St. Clair, and the steamer Alaska with a portion of the city of Sandusky. The Detroit and Port Huron steamers were also largely patronized. The excursion business is simply immense.

The barge Little Jake and E. F. Gould, recently waterlogged, were towed to this city and docked for repairs.

The steamer Milton D. Ward will this week be taken into the Detroit dry dock and receive some needed attentions.

The propellers Hiawatha and J. C. Clark, which heretofore have plied between Sarnia and Wallaceburg, have been laid up and are to be sold. They are of medium size, rather too much of the one thing, and not enough of the other. They belong to the Huron & Erie railway, who have no further use for them.

During a portion of the past week tugs with rafts in tow experienced rough weather, and in one or more instances destruction seemed inevitable, yet none were wrecked. The tug Champion left East Tawas with a raft containing upwards of 3,000,000 feet, and when off Point Au Barque encountered the worst of the gale, and thus on to the River St. Clair, but was skillfully brought through all right. The tug Balize, from Cheboygan, with 3,500,000 feet raft, encountered the same storm, but with like success. Her destination was Tonawanda.

John Jarvis, a wellknown submarine diver, reports himself direct from the Sault, where operations towards raising the propeller Quebec are going on. He says the job, if accomplished, will be one of the hugest ever carried out in the line of lake wrecking. All was progressing favorably when he left.

There is a vast amount of valuable property lying at the bottom of the lakes, which, under favorable circumstances, might be got up and yield handsome awards. An instance at hand is the steamship Brunswick, a new vessel sunk in Lake Erie, below Erie, and valued at the time at $90,000. She lies in about eighty feet of water, and with favorable weather might be recovered. The subject is being talked of here, but nothing definite has been arrived at.

The steamer Saginaw has been a topic of news for some time past, and now for a rest. suffice it, she has been put in fine trim, is an excellent seaboat, and well adapted for excursions. She may possibly make Cleveland a call in the not far off.

The steamers Cuba, Armenia, and California are about the only boats which pass this way from Montreal for Chicago. How such small boats can possibly make it pay on such a long route is what no fellow hereabout can find out.

There was a good demand for tonnage at this port yesterday (Monday,) on which account there will be not less than 150,000 bushels of grain leave the Detroit elevators Tuesday and Wednesday. Two steamers and three or more vessels will load for Buffalo at a 1½c rate.

S. A. Murphy's tug Charlton left Monday for the Sault River to assist in raising the propeller Quebec. Captain John Tobin, of this city, is superintending operations.

Captain John Montanbault, of this city, master of the barge India, which is towed by the steambarge Glasgow, was drowned near the Standard Rock, Lake Superior, a few days since. Every possible effort was made to rescue him, but of no avail, as he immediately sank out of sight.

Clarence Grange, a sailor, while assisting in unloading a timber vessel yesterday, had his leg broken by a piece falling on him. He was taken to the Marine Hospital. His home is in Way county, N. Y. HALL.

MARINE CITY.

*Special to the Marine Record.*

On Sunday the tug Nat. Stickney with a dredge and dump scow in tow near this place, collided with the steambarge Abercorn, coal laden, by a mistake of signals. The steamer was struck on the port side amidship, smashing in her whole side from the rail to below the water line. To prevent her from sinking she was run ashore. The tug was damaged in the stern and stanchions, and went to Detroit for repairs. The Abercorn is owned by J. Leitch and others, of Marine City, where she was built in 1873 by J. J. Hill, and measures 260 tons. She received extensive repairs, including a new deck, in 1883, and is rated A 2½ by the Inland Lloyds, her value being $15,000. Her hull and cargo are both fully insured in the Buffalo pool.

The iron tug Record passed down Tuesday with a respectable tow, consisting of the barges Raynor, General Burnside, Matilda, Mary Stockton, and Star of the North. H.

GRAND HAVEN.

*Special to the Marine Record.*

A new company entitled the Grand Haven Shipbuilding Company has been formed at this port, Duncan Robertson holding the position of head shipbuilder, Peter Sinclair assistant shipbuilder, H. C. Pearsons, designer, John Budge Secretary and Treasurer. Duncan Robertson has carried on the business of shipbuilding at Grand Haven since 1867 and has built some 50 craft of all classes comprising the steambarges Albert Soper, S. C. Hall, White and Friant and Tempest. Schooners Robert Howett, Wolverine, Hunter Savidge, David Macy, City of Grand Haven, Willie Loutitt, William H. Dunham, Ottawa, Mary E. Cook and C. E. Wyman and a large number of pleasure steamers and tugs, all of which have been celebrated for their staunchness in building and material. Peter Sinclair and John Budge have been connected with Duncan Robertson for a considerable time and are well known shipbuilders and H. C. Pearson, in an old time shipbuilder; he has also been inspector of hulls and is now the patentee of a propeller wheel, which has been proven to have excellent qualities, both for speed and as a backing wheel. The company have commenced business and have laid the keel for a very fine steam launch which is to be of great speed, 48 feet on the water line, 8 feet beam 4 feet molded depth. The engine 8x8 is being built by Henry Bloecker & Co., marine engine builders, Grand Haven, and the eliptical boiler, 5 feet diameter 6 feet long, of Otis steel, by Johnson Brothers, boiler makers, Ferrysburg. She will have a Pearsons wheel.

Henry Bloecker & Co., marine engine builders, have taken the machinery out of the steambarge Trader and rebuild it and refitted it on board the tug New Era, which has been rebuilt by T. W. Kirby, shipbuilder, at this port.

Captains Daniel and David Miller have received, from the United States Government, the former a gold and the latter a silver medal, in recognition of their humane and heroic efforts in saving life at the wreck of the propeller H. C. Akeley, November 13, 1883. A gold medal was also sent to Chicago for Patrick H. Daly, who was a seaman on board the schooner Driver, and went with Captain Daniel Miller in the boat to the rescue of the Akeley's crew. T. W.

EAST SAGINAW.

*Special to the Marine Record.*

After five weeks of turmoil and struggle and a loss of about $200,000 in wages to the labor element of the valley, two mills are running on ten hours and no reduction of wages, six or seven at ten hours and a proportionate reduction on the men receiving over $1.25 per day, and some fifteen mills are running on the same conditions as before the strike, indications which tend to show that the strike is nearing the end.

Captain Ben Burrows, of the steamer C. B. Hull, and John Deraney, of the tug Willie Browne, and Albert Eggert, engineer of the Browne, were arraigned before Justice Forest Friday on a charge of assault and battery on John Goulchie. Coulchie was painting the upper story of the saloon in which the trio had just taken a drink, and in coming out they ran against the bottom of the ladder that Goulchie was on, knocking him off, and falling to the sidewalk he broke his leg. The painter has now sued the parties for $500 damages.

The steambarge J. P. Donaldson came into the river yesterday with the barges Wesley, Brightie, and Cohen. The Nellie Mason was left at the Charity Islands, as she is loaded with stone for Racine, and will be picked up by the Donaldson.

The steamer Mary Hess, which has not been in commission for several years, has received a new boiler and been given a coat of black paint on the hull. She will be fitted out to run as a pleasure steamer next year.

The steambarge Oswegatchie and tow, consisting of the barges Lizzie P. Betts, G. D. Norris, and H. W. Hoag arrived and will at once lay up. The fleet is owned by Sanborn & Prentiss. Other boats now out of commission at this port are the barges J. E. Sparrow, Wm. Vanetta, Dolphin, Pacific, and Fostoria.

The tug "Mud Hen" has returned from down the shore, and we understand a "novel" is to be written about the wonderful experience of the crew in the recent northeaster.

The barge Minnie E. Orton, which has been in ordinary several weeks, started to load yesterday.

Cram's steam pile hammer sank at Alabaster during the late severe storm. She will be raised at once.

Captain Ryan, of the propeller Rudolph, was summoned to his home in this city Saturday on account of the serious illness of his child. The little one was much better Tuesday and improving. SHAW.

CHICAGO.

*Special to the Marine Record.*

The scow Anne Tomine, Captain J. Disbrow, arrived from Muskegon Friday afternoon minus a portion of her deck load of shingles, and her main masthead sprung. She was caught in the gale in midlake last Thursday.

The schooner Unadilla, of Detroit, Captain John Andrews, put in her first appearance at this port this season Tuesday morning with 452,000 feet of lumber from Cheboygan, Mich.

The steamship John B. Lyon with her consorts, the John M. Hutchinson and J. D. Sawyer, arrived Tuesday morning coal laden from Buffalo.

The schooner E. P. Royce, Captain Walsh, arrived Tuesday morning with lumber from Manistee, her first arrival at this port since her collision with the propeller Jarvis Lord on July 23d off Skillagalee. She was towed into Milwaukee by the Jarvis Lord and taken to the Milwaukee Shipbuilding Company's by order of the captain of the Lord, and repairs were made which comprised new stern, new quarter deck, new beams aft of the cabin, several new frames on her port quarter, some new stanchins and rail, new bulwarks on both sides for 50 feet forward of the cabins. It was fortunate she was such, a good stauch schooner, with strong, solid frames from stem to stern, otherwise the Jarvis Lord must have gone through her and sunk her.

The schooner Z. Y. M. C. A. made good use of the time whilst laying on the lumber market Tuesday, getting new wire rigging on her fore and main masts, which was supplied by Gibbs & Councer, ship chandlers.

The propeller Rhoda Emily, Captain J. W. Brion, with her consort, the Gos Hawk, left here Tuesday night for Escanaba to load iron ore for Ashtabula Harbor.

C. O. Malingrem, of 259 East Randolph street, will this week launch a steel steam launch 27 feet long, 6 feet 2 inches beam, 3 feet 4 inches deep, her engine is 4x4½, and her vertical boiler of steel 42 inches in height by 26 inches diameter, her wheel is of solid spring steel, 22 inches diameter 42 inches pitch. She is for J. E. Lehman, and will go to Fox Lake.

At the Chicago Dry Dock Company's the schooner John Miner was in to get a leak stopped; the excursion steamer Gazelle to get a leak stopped and her stern bearing fixed; the steambarge Michael Grosh to get stern bearing fixed and her bottom calked; the schooner Topsy got a new main mast; the propeller Rhoda Emily got her stern repaired; the propeller Inter Ocean a new timber head; the tug Brothers had her decks calked; the schooner Resumption got a new jibboom; the schooner J. B. Wilbur some new plank in her bow; the schooner A. J. Mowry some new rail chocks and cat head.

At Miller Bros'. dry docks the schooners Anne Dall, Commerce, Ironsides, Mercury, and C. J. Roeder were in for re-calking; the tug Shields for a new stern bearing; the tug McCormick for a new rudder and fixing stern bearings; the cutter yacht Verue to have some of the copper on her bottom fastened; the schooner Carrier is getting a new foremast; the schooner Samanca a new fore topmast. The schooner Camanche will come out of dock this week. She has received about one-half new keel, several new frames, about one-half new bottom, planking, and re-calking.

The schooner Elgit., ashore north of Racine, has not been released, although a portion of her cargo has been got out, and four steam pumps have been trying to keep her free. She is in a bad shape, and it is feared will become a total loss.

The following decrees have been rendered by Judge Blodgett: In the case of R. P. Fitzgerald vs. the steamer Saginaw, $241; Wm. Campbell vs. the same, $96; W. J. Baker vs. the same, $55 and costs, and an order that the seaman's wages be paid; Anderson vs. schooner J. F. Tracey, $60 and order of sale; Dall vs. schooner A. D. Smith, $102 and order of sale; O'Brien vs. steamer Twilight; referred to Proudfoot to take proof and report.

John Davidson, shipchandler, paid a visit to the wreck of the schooner Jamaica off Glencoe Tuesday, and on his return purchased her outfit for $225, and taking with him sufficient help returned to the wreck to strip her Wednesday.

The L. M. & L. S. Company's propeller Peerless left Tuesday night for Duluth with a large number of passengers.

A fleet of 100 vessels arrived Sunday and Monday, exactly 50 on each day. The large fleet on the lumber market seems to have come to stay, sales being very slow.

Grain freights are on the basis of 1½c to Buffalo, and there is no improvement in lumber freights.

The steambarge Philetus Sawyer paid her first visit to this port this season last week. She was on the market with 430,000 feet of lumber from Depere. Her owner, M. English, of Green Bay, was on board.

The arrangements made between the city authorities and the Lumbermen's Association for the supply of fire boats for this city are working well and are being rapidly forwarded.

Captain John Prindiville has received a dispatch from his son, who is in charge of the wrecking expedition, that the schooner Elgin, which went ashore north of Racine, was got off Tuesday and towed by the Morford to Racine, where a canvass jacket will be placed under her and she will be brought along to Chicago. She is in a bad condition.

The steamship Tioga arrived Tuesday night from Buffalo with merchandise. She is in command of Captain Fletcher, of the Newburg, Captain Shannon being detained in Buffalo in consequence of his wife's serious illness.

The government tug Humphreys, which has been lying idle in Illinois Central slip all season, sunk yesterday at her dock. Being exposed to the sun her seams opened, and she gradually filled and went to the bottom.

Transfers and sales recorded at the Chicago custom house: August 11, schooner City of Erie, bill of sale, whole, $1, Henry V. O'Brien to Daniel R. O'Brien.

August 11, schooner City of Erie, power of attorney, Henry V. O'Brien to Thomas W. Kirby.

August 6, steamer Grummond, bill of sale, one quarter, $2,000, Julia M. Parker to Christian Olsen.

August 11, schooner Mary Amanda, power of attorney, Henry V. O'Brien to Thomas W. Kirby.

August 11, schooner Wolverine, power of attorney, Henry V. O'Brien to Thomas W. Kirby.

August 11, schooner Wolverine, bill of sale, whole, $1, Henry V. O'Brien to Daniel R. O'Brien. WILLIAMS.

CLAYTON.

*Special to the Marine Record.*

Captain Kane's catamaran is the fastest sailer on the river.

The schooner Ellen Spry unloaded deals at Kingston, the largest cargo ever unloaded there.

The steambarge Nipigon and consorts and steambarge Wilson and consorts passed up light on Wednesday evening.

The steambarge Silvanus J. Macy with consorts Ishpeming and John Burt, corn to Ogdensburg.

At the yacht race at Oswego on the 5th the following prizes were awarded: First class—First prize, Atalanta, of Belleville; second, Aileen, of Toronto; third, Cygnet, of Toronto. Second class—First prize, Laura, of Kingston; second, Iolanthe, of Kingston; third, Kate Grey, of Oswego.

Hanlan and Lee, oarsmen, have signed articles for a three-mile race over a straight course in Jamaica Bay for a purse of $1,000, to take place Saturday, August 15.

The steamer Junita, Captain William Elliott, near the canoe camp, broke his shaft while running under a check. The steamer Magic towed the Junita to Clayton for repairs.

Captain Thomas Esselstyn and wife are at home on a visit.

Captain S. G. Johnson is building a dock at the head of Round Island for Mr. Jacob Hayes, of New York.

The schooner rig yacht Vision came near going ashore in the upper bay in the blow on Monday evening. The tug Curlew went to the rescue.

Mr. John Oades and wife, of Detroit, are in town visiting friends. Mr. Oades goes to Winchester Springs for his health.

Captain S. G. Johnson & Son's new yacht Sirius is getting to be pretty slippery.

The steamer Ontario is getting her share of the excursion business.

The Kingston yacht Victoria is reported to have made the run from Kingston to Clayton in 55 minutes. That is rather too thin for mariners to believe. She can't do it—the distance is too far for the time. B.

ERIE.

Captain Abe Louch, a well known sailing master, has been commissioned pilot of the United States ship Michigan, vice Patrick Murphy, retired, Captain Louch was for some time and until recently in charge of the land lighthouse at Erie.

United States revenue cutter Perry reported from this port the release of the schooner J. C. Rutter, which it found beached at Maumee bay last Saturday.

DULUTH.

The tug Pacific, which blew up in Chequamegon Bay last August, has arrived here to be repaired. The underwriters here have charge of her, and will turn her over to the owners of the Union Mill Company at Bayfield when the repairs are completed.

## HISTORY OF LAKE NAVIGATION.

BY J. W. HALL.

*Written for the Marine Record:*

### CHAPTER XXIX.

The season of 1843 was the second era of propellers on the lakes, and the first commissioned above Niagara Falls. The Hercules was built during the winter at Buffalo for Hollister & Co., and commenced plying early in the season, commanded by Captain G. W. Floyd, formerly in the steamer Sandusky. The Hollisters also had built at Perrysburgh, O., the same winter, a propeller called the Samson, which was sailed by Captain Amos Pratt, who had an interest in her. The Hercules was 275 tons burden, 135 feet long, 25 feet beam, and 8 feet hold. She had fourteen state rooms, 5 feet square, with sufficient space additional for the erection of forty-six berths more. The total weight of her machinery was 15 tons, the engine being of Ericeson's patent, the cost $20,000. Ten cords of wood was sufficent to run her each day. The Samson was 250 tons burden and cost $15,000.

James Averill, a shipbuilder from Maine, opened a shipyard at Chicago, and built the first propeller on Lake Michigan the same winter, which was named the Independence. She was 250 tons burden, 112 feet keel, 25 feet beam, and 9½ feet hold. She was ready for running in June of that year. The Samson performed the round trip between Buffalo and Chicago in 15 days, which, in those times, was considered remarkable speed. The Hercules made the down trip from Chicago to Buffalo in six days, her cargo consisting of 2,100 barrels of flour, besides sundries consigned to Waring, Stockton & Co. and Beecher & Co., Buffalo.

The old sidewheel steamer General Porter was converted into a propeller this season by Captain C. L. Gager at Buffalo. The propeller Emigrant also came out new this year, 275 tons burden, built at Cleveland at a cost of $15,000. The Propeller Racine, 150 tons, came out at Oswego the same season, plying from that port to Chicago. She was subsequently converted into a sail vessel, and lost on Lake Erie in 1849. The propeller New York, built at Oswego, 150 tons, and the Chicago, 150 tons, from the same port, were also commissioned in 1843, were all the new American boats that season. They plied in connection with the New York, Oswego & Chicago line, carrying merchandise and passengers westward and produce to the east.

On the Canada side of Lake Ontario the propeller Adventure came out, and was the first of that class of steamers in those waters, and was 158 tons burden. She astonished vessel men by making the run from Toronto to Quebec in three days.

Appropos of quick trips in those times there were others performed which compare well with many of a much later date. Besides those above noted the steamer General Wayne, Captain Perkins, made the voyage from Chicago to Buffalo in 3 days 11½ hours; the schooner Sandusky, Captain J. P. Davison, from Buffalo to Detroit and back with cargo, in four days and a half; schooner Windham, Captain O. Shephard, from St. Joseph to Buffalo in 5 days and 3 hours.

The season of 1843 was a dull one, and not a few boats had small margins at the close. The steamer Thomas Jefferson was laid up in August for the year; steamer Missouri lay by two months; the Buffalo was hauled off the upper lake route to fill the place of the Jefferson between Buffalo and Detroit.

The combination line of boats met with strong opposition from outside boats, causing a reduction in fares, which, for a time, was reduced between Chicago and Buffalo to $5. Each steamer carried a band of music, with numerous dock runners at all the principal ports, all of which eventually broke up the old line. Captain H. Whitaker retired from the command of the steamer Columbus during the season and purchased the steamboat United States and sailed her. Captain Forbes left the Constitution, and was succeeded by Captain Sam Vary.

In addition to the steamers plying on Lake Ontario beside those above noted, were the St. Lawrence, Lady of the Lake, Oneida, Express, Telegraph, Clinton, and Rochester, the latter sailed by H. N. Throop—these were all American boats—the Admiral, Captain Gordon, besides those elsewhere reported.

Snow fell at Buffalo Thursday morning, June 8, with a temperature to match.

The United States revenue cutter Erie was commanded by Captain Gilbert Knapp, and cruised throughout the upper lakes, visiting the various lighthouses, vessels, etc. While at Detroit in August she was ordered by the Secretary of the Treasury to place all her flags at half mast and fire a salute of thirteen minute guns as a token of respect for the death of Captain Nicholas Bicker, of the United States Revenue Service, who died in New York city.

The United States steamer Michigan was in process of construction at Erie., Pa., this season, of iron, the plates for which were transported from Pittsburg via Cleveland, at a cost of $6,000 between the latter port and Erie. The cost from the former place to Cleveland is not stated. Also an iron survey steamer for the United States Government at Buffalo, which was launched in the fall and named the Colonel Abert. She was 97 feet long, 18 feet 6 inches beam, and 8 feet hold. She was propelled by one of Hunter's submerged water wheels and two engines, 16 inches diameter and 26 inches stroke, with a draft of 40 inches. There were nothing visible above the deck except the smoke stack.

While the steamboat Missouri was lying at Buffalo September 20, it was discovered that some person had entered the captain's office by means of a false key, and robbed it of $285. Suspicion fell upon an Englishman named William Low, and Officer Gates was put upon the scent, and by 9 o'clock the man was in jail and the whole of the money recovered. The accused had resided in Buffalo for several years, and had a family.

Robert Davis, first mate of the steamer Illinois, died in Buffalo after a brief illness, September 16. He had served in that capacity for several years, and was favorably known far and wide. He was married a few weeks before his death.

The Canadian steamer Admiral, Captain Gordon, was seized in October at Rochester for smuggling. Upon searching the boat two cases of gin, containing each between 200 and 300 gallons, were found in the cook's room.

In the month of November, 1843, Lake Ontario was visited by a violent squall, accompanied by snow, heavy peals of thunder, and vivid lightning. The steamer Lady of the Lake, Captain Taylor, was on her passage from Sackett's Harbor to Oswego, and encountered the utmost violence of the storm. It lasted three hours and created a tremendous sea. The snow fell thick, and nothing was visible the boats length off. She arrived at her destination without damage.

The brig Rocky Mountains, which, in those times, was considered one of the largest vessels on the lakes, on her last trip of the season from Detroit to Buffalo, had a full cargo, as follows: 1,042 barrels of flour, 1,776 bushels of wheat, 120 barrels of fish, 5 casks of ashes, and 9 barrels of cranberries.

The following extract is taken from the Cincinnati Atlas, of November, 1843: "We noticed yesterday at the upper landing the two masted schooner Dolphin, Captain Doyle, from Buffalo, N. Y., loaded with white fish, and bound for New Orleans. She entered the Ohio via Cleveland, through the Ohio Canal, and is probably the first schooner that has ever floated from the waters of Lake Erie to the Ohio."

An iron revenue cutter was built for the United States Government this year at Oswego, of the following dimensions: Length, 150 feet; beam, 23 feet; depth, 8 feet.

The schooner South America, Captain Brady, left Buffalo November 4 with a cargo of salt for Toledo, and was never heard from afterwards. This was the most deplorable disaster of the season. Captain B. left a family at Vermillion.

The exports from Cleveland this season to United States ports were 45.483 bbls of flour, 287 barrels of pork, 54,891 bushels of wheat. To Canada, 5,300 barrels of flour; 82 barrels of pork, with a total valuation of $225,546.12. Number of vessels entered, 129; number cleared, 112.

At Buffalo there were 2,964 arrivals and 2,920 departures. The quantity of flour received at that port the whole season was 917,517 barrels; pork, 41,979 barrels; beef, 25,329 barrels; wheat, 1,827 241 bushels; corn, 223,963 bushels; oats, 2,489 bush; rye, 1,332 bushel, besides various miscellaneous articles, with an estimated valuation of $10,000,000.

The quantity of lumber which arrived at Buffalo in 1843 was about 8,000,000 feet, one quarter of which was excellent pine from Canada, the balance consisted of cherry, black walnut, whitewood, and other cabinet stuff, amounting in the aggregate to $100,000. There was also a considerable quantity of staves. Only one cargo of oats arrived during the season. The quantity of coal received was about 1,000 tons, two-thirds of which came from Ohio.

The last trip of the steamboat Chesapeake this season, December 7, she made the run from Buffalo to Detroit in 36 hours.

The increase of tonnage at Detroit during the season, as shown by the custom house books, was 2,221.47 tons.

The new vessels enrolled at Detroit in 1843, some of which have been noted in the preceding list, were the steamboat St. Clair, 310 tons; schooner Jesse Smith, 117 tons; schooner Fur Trader, 52 tons; steamboat Champion, 266 tons; steamboat Paragon, 41 tons; schooner Mink, 48 tons; schooner Young Rover, 8 tons; schooner Mechanic, 18 tons; D. D. Stanton, 17 tons; sloop Lady of the Lake, 8 tons; sloop Huron, 11 tons; sloop Enterprise, 19 tons; sloop Swallow, 11 tons; and sloop Ocean, 15 tons.

The new craft built and commissioned on the lakes in 1843, with tonnage and cost, was as follows:

| Name, | Class. | Where built. | T'n | Cost. |
|---|---|---|---|---|
| Nile | Stmr. | Detroit | 650 | $ 80,000 |
| Samson | Prop. | Perrysburg | 250 | 15,000 |
| Emigrant | do | Cleveland | 275 | 15,000 |
| Hercules | do | Buffalo | 275 | 15,000 |
| Independence | do | Chicago | 275 | 15,000 |
| E. H. Scott | Brig | St. Joseph | 200 | 8,000 |
| St. Louis | do | Kalamazoo | 200 | 8,000 |
| Windham | Schr. | Ashtabula | 270 | 8,000 |
| Velocity | do | Buffalo | 162 | 7,000 |
| Roanoke | do | Euclid, O. | 161 | 7,000 |
| Ocean | do | Cleveland | 121 | 5,000 |
| Swan | do | Cleveland | 41 | 2,000 |
| Birmingham | do | Vermillion | 138 | 5,000 |
| Trenton | do | Charleston, O. | 133 | 5,500 |
| Eudora | do | Charleston, O | 133 | 5,500 |
| M. Dousman | do | Milwaukee | 130 | 5,500 |
| Home | do | Lower Sandusky | 127 | 5,500 |
| Stranger | do | Milan | 121 | 5,500 |
| Troy | do | Conneaut | 122 | 5,500 |
| Wolverine | do | Detroit | 97 | 4 500 |
| Chauncey | do | Silver Creek | 80 | 3,000 |
| Etna | do | Silver Creek | 90 | 3,000 |
| Marion | do | Silver Creek | 58 | 2,000 |
| Oceana | do | Silver Creek | 60 | 2,500 |
| Emma | Sloop | Ashtabula | 42 | 2,000 |
| | | | 4212 | $241,500 |

The vessels above enumerated were those which arrived at Buffalo during the season of 1843, and it is not improbable the record is not quite complete so far as refers to new tonnage above the falls. Others may have been launched but not put in commission. Of the writers own knowledge the brig Burlington was built at Cleveland that season, the schooner Albany at Milan, and the Eugenia at Algonac; their tonnage was respectively 144, 114, and 38 tons,

The steamers built and commissioned on Lake Ontario will be found elsewhere, and of vessels the brig Neptune, schooners Cambridge, Empire, Colonel Powers, William Combs, and Bozart were added to the tonnage of that lake.

## BUILDING A DREDGE.

There will soon be added to the craft in in this harbor a large vessel unlike anything that has been seen heretofore in these waters. This will be a vast hydraulic dredge, which has been quietly in course of construction beside the canal on Minnesota Point.

The dimensions of this dredge are on a large scale. It will be ninety feet long on deck and 24 feet wide with a depth of 6 feet in the hold. The machinery will include a pair of vacuum cylinders, measuring each 22 cubic feet. The boiler, which will be for 75 horse power is being made at Walsh's works on the Point. The remainder of the iron work is being constructed at the National Iron Works at Rice's Point, so that throughout this craft, will be a product of Duluth skill and industry.

This hydraulic dredge is being built under the supervision of the inventor W. H. Newton who is supervising its construction. The dredge is to be employed in procuring gravel from the bed of the lake for street and general use, as well as for raising sand for building and other purposes.

The dredging is done by steam pressure alternately filling and discharging each cylinder. A large pipe (with a cutter bar) like the boom of a vessel will extend from the dredge to the bottom of the lake. "I excavate by a combination of jets of water and a cutter bar," Mr. Newton said. The bar serves to break up the material while the jets of water disintegrate it. The dredge will be able to take up 100 cubic yards of solid material per hour from any depth. Among the novel features in this dredge is its capacity to discharge the material at a distance of 500 or more feet from the place where it is at work. Sand and gravel can be discharged from it on shore as quickly as either is taken in on the lake. The first of these hydraulic dredges was built in Chicago and another large one is in use in Louisiana. Great things are expected from the new dredge which can be employed in forming piers or in enlarging the width of Minnesota Point.

Health Officer Fletcher predicts that the fog horn and the dredge combined will lead to the construction of another canal on Park Point. The horn will bother people so much that they will be glad to have it out of the way, while the hydraulic dredge will render it easy te build a new canal for the benefit of the harbor.

The frame of the hydraulic dredge will be constructed by the end of next week.—*Duluth Herald.*

## CANADIAN CANAL TOLLS.

Every order in council heretofore passed reducing tolls on Canadian canals have failed, owing to incorrect wording, to include the St. Lawrence canal in the reduction, an order was to-day passed which removes the difficulty, and makes the tolls 2 cents per ton through both the St. Lawrence and Welland canals or either canal alone.

## PORT ARTHUR BREAKWATER.

This immense work is being pushed ahead rapidly and promises to be completed within the time specified, the first of next December. The contractors have increased the staff of men and have now a force of 120 hands employed. Work is going on night and day and the contract is being carried out in every way consistent with a first-class job.

The total length of the present contract is 2,000 feet, which will afford excellent protection to all the docks when completed. The breakwater is composed of twenty cribs, each one hundred feet long and thirty feet wide. The cribs are all made and half of the number are already placed in their proper position. About five hundred feet of the work is complete in every particular and shows that both in the material and workmanship there is nothing defective. The cribs are built of 12x12 timbers, dovetailed into each other and securely held by ragbolts driven in every ten feet. These bolts are an inch square and vary from two feet to ten feet six inches in length, with several ears in the lower end. Each crib is especially built to suit the formation of the ground where it is placed, and averages about eighteen feet in height. When the crib is placed in proper position a layer of brush is filled in and covered with stone which prevents any chance of the bed shifting by the mud washing through. Tons of rock are then dumped in until the crib is filled up to the top and presents as solid a resistance to the waves as though it grew right there.

The course of the breakwater was located by Mr. Murdoch, who made some 3,500 soundings of the bay last winter, and thoroughly tested the bottom all along this line and around the whole harbor.

The result of these soundings is shown in a chart which gives the depth of water and formation of the bottom every twenty-five feet. The line on which the breakwater is built is the best ground that could be selected, being a hard firm foundation with the exception of a few feet at the north end. The foundation of the work is also protected by a rock terrace which runs up nine feet from the bottom and goes out eighteen feet in front.

No. 10 crib was being placed in position as the reporter arrived. It is on a direct line with the Government dock lighthouse and when the remaining ten are stationed in proper place the south end will be in line with Smith & Mitchell's dock. With the wind at right angle the breakwater will effectually shield the harbor as far south as the Thunder Bay elevator dock, the last on the list.

Hardly any idea can be formed of the immense amount of labor required in this work or the solidity and strength of the structure unless from actual inspection. It is as solid as wood, stone, and iron can make it. Inspector Davis is particular that Mr. Murdoch's instructions be carried out according to the government's specifications, and the contractors have been careful to select only the best of material and employ good men throughout. The work is admitted to be a splendid one all through, reflecting great credit on all concerned in the construction. It stands six feet above zero, or the government guage established by Mr. Murdoch. This guage shows a difference of over a foot between high and low water. Yesterday the water was seven inches above zero, and last winter it fell six inches below zero.

There is a great deal of work to be done before the present contract is completed, but even at the present stage it affords considerable protection against a breeze from the north end of the bay, and when it is finished the harbor will be in every respect one of the safest and best protected to be found in inland waters.—*Sentinel.*

## DREDGING AT THE SAULT.

The Algoma Pioneer says that "Contractor Cram says that dredging operations to clear the river channel in front of Sault Ste Marie, Ont., will be commenced in about one month. Which means that the town may bid farewell to all hopes of getting the C. P. R. boats to call here this season, as by the time the dredging is done the summer will be about ended and travel reduced to its minimum." We thought the Pioneer said awhile ago sufficient dredging had been done there to admit the C. P. R. boats, and it growled because they steamed right past.

A retired old sea captain in the north of England bought a horse to please his wife. The animal proved to be frisky and several times succeeded in spilling the old lady. At last the captain, aided by another old salt, attempted to break the unruly steed of his vicious habits. He took a kedge anchor, with a stout line, and fastening one end of the line to the axle of the phæton, took the kedge aboard, and the two men started for a drive along the shore. Soon the vicious animal spied something which gave him an excuse to run away, and he dashed off with frightful vivacity. The captain dropped the reins, and summoned all hands to "let go the anchor." The anchor was let go and caught firmly in the sand. The unsuspecting quadruped pranced joyously along until he got to the end of the rope, and then he paused—paused so suddenly that the phæton was demolished, and the two men shot up into the air like a couple of sky-rockets, coming down in a fearfully dilapidated condition.—*Oswego Times.*

There is a queer state of affairs existing in Sault St. Marie in regard to the Sault canal. When the Legislature of Michigan donated the canal to the United States Government, in 1877, the gift was accepted by a single two-line clause in the harbor and river appropriation bill of that year. No arrangement was made for governmental authority, and should a vessel sink in one of the approaches of the canal, the canal officials would have no power to remove it, and unless the owners did so it would have to remain there.